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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/511,408

04/08/2005

John Mak

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24392 7590 03/23/2009

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EXAMINER

WU, IVES J

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

03/23/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/511,408	Applicant(s) MAK, JOHN	
	Examiner IVES WU	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11 is/are allowed.
- 6) ☒ Claim(s) 12, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 13 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- (1). Applicant's Amendments and Remarks filed on 12/9/2008 have been received.
Claim 12 is amended.

The rejection of claim 12 in prior Office Action dated 9/18/2008 is revised and presented together with rest of claims in the following.

Claim Rejections - 35 USC § 102

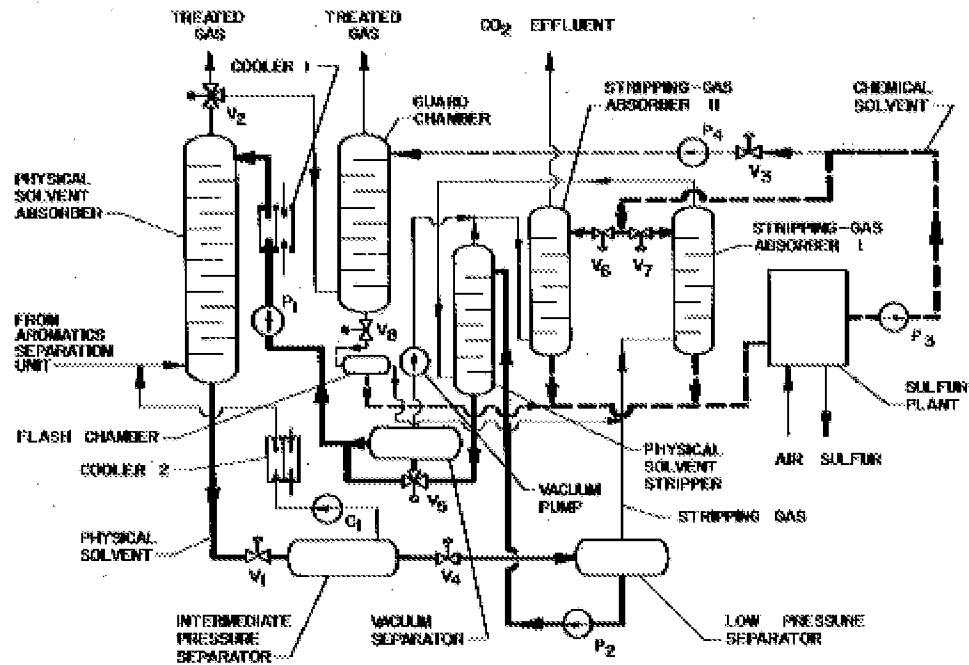
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- (2). **Claims 12, 15-16** are rejected under 35 U.S.C. 102(b) as being anticipated by Miller et al (US 4080424).

Miller et al (US04080424) disclose process for acid gas removal from gaseous mixture (Title) as shown in the following:



Intermediate pressure separator and low pressure separator which is coupled to the physical solvent stripper through stripping gas absorber 1 and provides stripping gas as illustrated in the Figure above. The intermediate pressure separator liquid output containing the physically absorbed CO₂ and H₂S is then passed through valve V₄ to a low pressure separator reducing the pressure to approximately atmospheric to produce stripping gas for use in stripping gas absorber 1. **The low pressure separator vapor output contains nearly all of the CO₂ and most of the H₂S physically absorbed by the physical solvent.** Stripping gas absorber 1 removes H₂S from the CO₂ stripping gas by use of an H₂S selective chemical solvent (Col. 5, line 17-27).

As to step of separating in at least one of a high-pressure flash vessel and a medium pressure flash vessel a substantially hydrogen sulfide-free stripping gas from a physical solvent in a method of producing an ultra-clean physical solvent in **independent claim 12**, Miller et al (US04080424) disclose intermediate pressure separator and low pressure separator to produce liquid output and stripping gas containing nearly all of the CO₂ and most of the H₂S physically absorbed by the physical solvent (Col. 5, line 6-27).

As to further reducing pressure in the physical solvent to remove carbon dioxide and to so form a carbon dioxide-depleted lean hydrogen sulfite-containing physical solvent in a method in **independent claim 12**, Miller et al (US 4080424) disclose the low pressure separator vapour output containing nearly all of the CO₂ and most of H₂S physically absorbed by the physical solvent (Col. 5, line 22-24).

As to step of feeding the substantially hydrogen sulfide free stripping gas into a vacuum stripper hydrogen sulfide to thereby strip hydrogen sulfide from a carbon dioxide-depleted lean hydrogen sulfide-containing physical solvent in the vacuum stripper to so form the ultra-lean physical solvent in a method of producing an ultra-clean physical solvent in **independent claim 12**, Miller et al (US04080424) disclose the gaseous output from the stripping gas absorber 1, mainly CO₂ free of H₂S, is used as a stripping gas to remove H₂S from low pressure separator liquid output which is passed in countercurrent flow relationship in the physical solvent stripper (Col. 5, line 28-32).

As to lean hydrogen sulfide-containing physical solvent selection in **claim 15**, Miller et al (US04080424) disclose specific chemicals which are especially useful as

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physical solvents include propylene carbonate, dimethyl ether of polyethylene glycol; n-methyl-2 pyrrolidone (Col. 4, line 16-29).

As to substantially hydrogen sulfide-free stripping gas comprising at least 95 mol% carbon dioxide in **claim 16**, Miller et al (US04080424) disclose the gaseous output from the stripping gas absorber 1, mainly CO₂ free of H₂S, to be used as stripping gas to remove the H₂S from low pressure separator liquid output which is passed in countercurrent flow relationship in the physical solvent stripper (Col. 5, line 28-32).

Allowable Subject Matter

(3). **Claims 1-11** are allowed.

Claims 13-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The absorber of Applicant is operated at temperature profile either isothermal gradient or decreasing top-to-bottom thermal gradient while the absorber of Miller et al (US 4080424) is operated in a temperature profile with increasing top-to-bottom thermal gradient.

Response to Arguments

(4). Applicant's arguments filed on 12/9/2008 have been fully considered but they are not persuasive.

Applicant states that the stripping gas in the Applicant's invention is carbon-dioxide depleted. However, the stripping gas cited in instant claim 12 is hydrogen-sulfide-free stripping gas.

Applicant's arguments, see page 5, Remarks, filed on 12/09/2008, with respect to claims 13 & 14 have been fully considered and are persuasive. The rejection of 9/18/2008 has been withdrawn.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IVES WU whose telephone number is (571)272-4245. The examiner can normally be reached on 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner: Ives Wu

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Date: March 17, 2009

/DUANE SMITH/

Supervisory Patent Examiner, Art Unit 1797